## ABSTRACT OF THE DISCLOSURE

A part of a wavelength division multiplexed optical signal output from a multiplexing area is extracted as a check signal, and then the extracted signal is guided to a multiplexing area. A reentered check signal is detected at a facet located opposite a facet from which the check signal has been reentered, and the state of the detected check signal is determined. Furthermore at need, on the basis of the result of the determination, a control signal is output that controls operations of a plurality of optical signals input to the multiplexing area.